

IN THE CLAIMS

Please amend the claims as follows:

Claims 1–5 (Canceled):

Claim 6 (New): A high thermal conductive aluminum nitride sintered body having:
a thermal conductivity of 220 W/m · K or more; and
a three point bending strength of 250 MPa or more; wherein
a ratio ($I_{\text{Al}_2\text{Y}_4\text{O}_9}/I_{\text{AlN}}$) of X-ray diffraction intensity ($I_{\text{Al}_2\text{Y}_4\text{O}_9}$) of $\text{Al}_2\text{Y}_4\text{O}_9$ (201 plane)
with respect to X-ray diffraction intensity (I_{AlN}) of aluminum nitride (101 plane) that is 0.002
to 0.03, and wherein said aluminum nitride sintered body comprises
0.14 – 1.5 mass% of Y element and 0.05 – 0.5 mass% of oxygen,
a mass ratio (O/Y) of oxygen (O) with respect to Y element that is 0.5 or less,
an average diameter of aluminum nitride crystal grains that is 4 μm or more,
a number of crystal grains existing in an arbitrary crystal structure area of 100 $\mu\text{m} \times$
100 μm that is 200 or less, and
a maximum diameter of grain boundary phase that is 0.5 μm or less.

Claim 7 (New): The high thermal conductive aluminum nitride sintered body
according to Claim 6, wherein a ratio ($I_{\text{Y}_2\text{O}_3}/I_{\text{AlN}}$) of X-ray diffraction intensity ($I_{\text{Y}_2\text{O}_3}$) of
 Y_2O_3 (222 plane) with respect to X-ray diffraction intensity (I_{AlN}) of AlN (101 plane) is 0.002
to 0.06.

Claim 8 (New): The high thermal conductive aluminum nitride sintered body according to Claim 6, wherein a minimum diameter of the aluminum nitride crystal grains is $2\text{ }\mu\text{m}$ or more, and a maximum diameter of the aluminum nitride crystal grains is $25\text{ }\mu\text{m}$ or less.

Claim 9 (New): The high thermal conductive aluminum nitride sintered body according to Claim 6, wherein a grain boundary phase to be a secondary phase is limited to a phase composed of only $2\text{Y}_2\text{O}_3\cdot\text{Al}_2\text{O}_3$.

Claim 10 (New): The high thermal conductive aluminum nitride sintered body according to Claim 6, wherein a grain boundary phase to be a secondary phase is limited to a phase consisting of $2\text{Y}_2\text{O}_3\cdot\text{Al}_2\text{O}_3$.

Claim 11 (New): The high thermal conductive aluminum nitride sintered body according to Claim 6, wherein the mass ratio, O/Y, is 0.4 or less.

Claim 12 (New): A high thermal conductive aluminum nitride sintered body having:
a thermal conductivity of $200\text{ W/m}\cdot\text{K}$ or more; and
a three point bending strength of 250 MPa or more; wherein
a ratio ($I_{\text{Al}_2\text{Y}_4\text{O}_9}/I_{\text{AlN}}$) of X-ray diffraction intensity ($I_{\text{Al}_2\text{Y}_4\text{O}_9}$) of $\text{Al}_2\text{Y}_4\text{O}_9$ (201 plane) with respect to X-ray diffraction intensity (I_{AlN}) of AlN (101 plane) is 0.002 to 0.06, and a ratio ($I_{\text{Y}_2\text{O}_3}/I_{\text{AlN}}$) of X-ray diffraction intensity ($I_{\text{Y}_2\text{O}_3}$) of Y_2O_3 (222 plane) with respect to X-ray diffraction intensity (I_{AlN}) of AlN (101 plane) that is 0.008 to 0.06, and wherein said aluminum nitride sintered body comprises

0.14 – 1.5 mass% of Y element and 0.05 – 0.5 mass% of oxygen,

a mass ratio (O/Y) of oxygen (O) with respect to Y element that is 0.6 or less,
an average diameter of aluminum nitride crystal grains that is 6 μm or more,
a number of crystal grains existing in an arbitrary crystal structure area of $100\ \mu\text{m} \times 100\ \mu\text{m}$ that is 150 or less, and
a maximum diameter of grain boundary phase that is 0.5 μm or less.

Claim 13 (New): The high thermal conductive aluminum nitride sintered body according to Claim 12, wherein a minimum diameter of the aluminum nitride crystal grains is 4 μm or more, and a maximum diameter of the aluminum nitride crystal grains is 25 μm or less.

Claim 14 (New): The high thermal conductive aluminum nitride sintered body according to Claim 12, wherein a grain boundary phase to be a secondary phase is limited to either a phase composed of only $2\text{Y}_2\text{O}_3 \cdot \text{Al}_2\text{O}_3$ or a phase composed of only $2\text{Y}_2\text{O}_3 \cdot \text{Al}_2\text{O}_3$ and Y_2O_3 .

Claim 15 (New): The high thermal conductive aluminum nitride sintered body according to Claim 12, wherein a grain boundary phase to be a secondary phase is limited to either a phase consisting of $2\text{Y}_2\text{O}_3 \cdot \text{Al}_2\text{O}_3$ or a phase consisting of $2\text{Y}_2\text{O}_3 \cdot \text{Al}_2\text{O}_3$ and Y_2O_3 .

Claim 16 (New): A semiconductor apparatus comprising the high thermal conductive aluminum nitride sintered body according to Claim 6.

Claim 17 (New): A semiconductor apparatus comprising the high thermal conductive aluminum nitride sintered body according to Claim 12.